

REMARKS

This Application has been carefully reviewed in light of the Office Action mailed April 13, 2009. At the time of the Office Action, Claims 1-18 were pending in this Application. Claims 1-18 were rejected. Claims 1-3, 7-9, 13-14, and 18 are herein amended, and Claims 6, 12, and 17 are herein cancelled without prejudice or disclaimer. Applicants respectfully request reconsideration and allowance of all pending Claims 1-5, 7-11, 13-16, and 18.

Claim Objections

Claims 1-3, 5, 8-9, 11, 13-14 and 16 were objected due to various informalities. Applicants have amended Claims 1-3, 8, 9, 13 and 14 accordingly.

However, Applicants believe that the objections regarding unclear meaning of the term “bridged” in Claims 3, 5, 9, 11, and 14 are unfounded and should be withdrawn. The term bridged is readily understood by one of skill in the electrical arts, especially in view of its usage in the specification of the present application. For example, the specification uses the term to talk about shunting an overvoltage as follows: “Owing to the bridging by means of the spark gap, the capacitor is protected against excessively high voltages.” (Specification at ¶ 0003). In another example, the specification discusses a circuit around a capacitor as follows: “The second capacitor 8 can be bridged by a parallel branch . . .” (¶ 0004). Therefore, Applicants believe that Claims 3, 5, 9, 11, and 14 are properly drafted and respectfully request withdrawal of the present objections.

With respect to Claim 13, Applicants have noted the removal of excess spaces in that claim and have marked that claim as “Currently Amended.”

Applicants believe that the present claims, as amended, conform with all required formalities and respectfully request allowance of all pending claims.

Rejections under 35 U.S.C. § 102

Claims 1, 3-4, 6-7, 9-10 and 12 were rejected by the Examiner under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,121,270 issued to Charles A. Peterson

(“*Peterson*”). Applicants believe that the pending claims, as amended, are not anticipated by *Peterson* and request withdrawal of the rejections under 35 U.S.C. § 102(b).

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). Furthermore, “the identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co. Ltd.* , 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989).

In one example, independent Claim 1, as amended, is allowable over *Peterson* because *Peterson* does not teach the following features of amended independent Claim 1:

[T]he reception unit has at least one power semiconductor component, which can be converted, by means of the trigger light, from an off position, in which a current flow via the power semiconductor component is interrupted, to an on position, in which a current flow between the mutually opposite electrodes via the power semiconductor component is made possible.

Specifically, *Peterson* does not teach at least one power semiconductor component having an *on position, in which a current flow between the mutually opposite electrodes via the power semiconductor component is made possible*. While *Peterson* describes a semiconductor component (i.e., thyristor 55) in the circuit, that component does not allow *a current flow between the mutually opposite electrodes*. In contrast, the only overvoltage bypass described in *Peterson* is spark gap 24, which is an admitted feature of the prior art (see, e.g., Fig. 1 and accompanying text).

In another example, independent Claim 7, as amended, is allowable over *Peterson* because *Peterson* does not teach the following features of amended independent Claim 7:

[A] light source coupled with a protective device and being at ground potential for generating a trigger light, wherein the trigger light can be fed to a reception unit of the trigger circuit by at least one optical waveguide, wherein the spark gap and the trigger circuit are at a high-voltage potential, wherein the reception unit has at least one power semiconductor component which can be switched by the trigger light from an off position, in which a current flow via the power semiconductor component is interrupted, to an on position, in which a current

flow between the mutually opposite electrodes via the power semiconductor component is made possible.

Specifically, *Peterson* does not teach at least one power semiconductor component having an *on position, in which a current flow between the mutually opposite electrodes via the power semiconductor component is made possible*.

For at least these reasons, amended independent Claims 1 and 7 are allowable over *Peterson*. Therefore, Applicants respectfully request reconsideration and allowance of amended claims 1 and 7, and of Claims 2–5 and 8–12 that dependent from amended Claims 1 and 7, respectively.

Rejections under 35 U.S.C. § 103

Claims 2, 8, 13–15 and 17–18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Peterson* in view of Japanese Patent No. 07-245387 issued to Kaneda Hirotoshi (“*Hirotoshi*”) (together, “the proposed *Peterson-Hirotoshi* combination”).

Claims 5, 11 and 16 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Peterson* in view of Applicant’s Admitted Prior Art (“*AAPA*”) (together, “the proposed *Peterson-AAPA* combination”).

Claims 1, 3–7, 9–12 and 14–17 were rejected under 35 U.S.C. §103(a) as being unpatentable over *AAPA* in view of U.S. Patent No. 4,536,816 issued to Susumu Matsumura et al. (“*Matsumura*”) (together, “the proposed *AAPA-Matsumura* combination”).

In order to establish a *prima facie* case of obviousness, the references cited by the Examiner must disclose all claimed limitations. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). Even if each limitation is disclosed in a combination of references, however, a claim composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007). Rather, the Examiner must identify an apparent reason to combine the known elements in the fashion claimed. *Id.* “Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.*, citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). Finally, the reason must be free of the distortion caused by hindsight bias and may not rely on

ex post reasoning. *KSR*, 127 S.Ct. at 1742. In addition, evidence that such a combination was uniquely challenging or difficult tends to show that a claim was not obvious. *Leapfrog Enterprises, Inc. v. Fisher-Price, Inc. and Mattel, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007), citing *KSR*, 127 S.Ct. at 1741.

Applicants submit that the three cited art combinations, even if proper, which Applicants do not concede, do not render the present claims obvious. In one example, the proposed *Peterson-Hirotoshi* combination fails to teach at least the following features of amended independent Claim 13:

[T]he reception unit has at least one power semiconductor component which can be switched by the trigger light from an off position, in which a current flow via the power semiconductor component is interrupted, to an on position, in which a current flow between the mutually opposite electrodes via the power semiconductor component is made possible, and wherein the power semiconductor components are in the form of thyristors which are connected in opposition and can be triggered optically.

Specifically, *Peterson* does not teach or suggest a semiconductor component with an *on position, in which a current flow between the mutually opposite electrodes via the power semiconductor component is made possible*. While *Peterson* describes a semiconductor component (i.e., thyristor 55) in the circuit, that component does not allow *a current flow between the mutually opposite electrodes*. In contrast, the only overvoltage bypass described in *Peterson* is spark gap 24, which is an admitted feature of the prior art (*see, e.g.*, Fig. 1 and accompanying text). Furthermore, *Hirotoshi* does not provide such a teaching or suggestion as *Hirotoshi* merely describes the use of opposing, light-triggered thyristors and does not describe any relevant application of such a configuration. In particular, *Hirotoshi* does not describe an arrangement wherein a semiconductor component allows *a current flow between the mutually opposite electrodes*. Therefore, the proposed *Peterson-Hirotoshi* combination fails to teach or suggest each and every element of amended independent Claim 13.

In another example, the proposed *Peterson-Hirotoshi* combination fails to teach at least the following features of amended independent Claim 18:

[T]he first and second thyristor are switched by means of the trigger light from an off position, in which a current flow via the first and second thyristor is interrupted, to an on position, in

which a current flow between the mutually opposite electrodes via the first and second thyristor is made possible.

Specifically, for at least the same reasons as above, the proposed *Peterson-Hirotoshi* combination fails to teach or suggest a thyristor arrangement with an *on position, in which a current flow between the mutually opposite electrodes via the first and second thyristor is made possible*. Therefore, the proposed *Peterson-Hirotoshi* combination fails to teach or suggest each and every element of amended independent Claim 18.

In yet another example, the proposed *AAPA-Matsumura* combination fails to teach at least the following features of amended independent Claim 1:

[T]he reception unit has at least one power semiconductor component, which can be converted, by means of the trigger light, from an off position, in which a current flow via the power semiconductor component is interrupted, to an on position, in which a current flow between the mutually opposite electrodes via the power semiconductor component is made possible.

Specifically, *APP*A does not teach at least one power semiconductor component having an *on position, in which a current flow between the mutually opposite electrodes via the power semiconductor component is made possible*. To the contrary, *APP*A does not teach the use of semiconductor components at all for handling bypass current to protect against overvoltage conditions. *Matsumura* does disclose the use of light-triggered thyristors in an electrical circuit, but that is the extent of its relevant teaching. *Matsumura* actually *teaches away* from the use of light-triggered thyristors in the present application. For example, *Matsumura* pairs each light-triggered thyristor 13 with an overvoltage suppressing element 14 and describes the purpose as follows: “Each overvoltage suppressing element 14 suppresses the overvoltage which is impressed on each of the light-triggered thyristors.” *Matsumura*, col. 6, ll.38–40. Whereas Applicants’ invention uses light-triggered thyristors to protect against overvoltage conditions, *Matsumura* uses zinc oxide elements to protect the *thyristors* in its circuit. This is a clear example of teaching away. Especially in view of this teaching away, Applicants must emphasize the lack of a teaching, suggestion, or motivation to combine this single component used in an unrelated and incompatible way with the teachings of *APP*A. Therefore, the proposed *AAPA-Matsumura* combination fails to teach or suggest each element of amended independent Claim 1 and cannot render that claim obvious.

In a final example, amended independent Claim 7, as amended, is allowable over the proposed *AAPA-Matsumura* combination fails because the proposed *AAPA-Matsumura* combination fails does not teach the following features of amended independent Claim 7:

[A] light source coupled with a protective device and being at ground potential for generating a trigger light, wherein the trigger light can be fed to a reception unit of the trigger circuit by at least one optical waveguide, wherein the spark gap and the trigger circuit are at a high-voltage potential, wherein the reception unit has at least one power semiconductor component which can be switched by the trigger light from an off position, in which a current flow via the power semiconductor component is interrupted, to an on position, in which a current flow between the mutually opposite electrodes via the power semiconductor component is made possible.

Specifically, the proposed *AAPA-Matsumura* combination does not teach at least one power semiconductor component having an *on position, in which a current flow between the mutually opposite electrodes via the power semiconductor component is made possible*, for at least the same reasons as explained above. Therefore, the proposed *AAPA-Matsumura* combination fails to teach or suggest each element of amended independent Claim 7 and cannot render that claim obvious.

For at least these reasons, amended independent claims 1, 7, 13, and 18 are allowable over the proposed *Peterson-Hirotoshi* combination, the proposed *Peterson-AAPA* combination, and the proposed *AAPA-Matsumura* combination. Therefore, Applicants respectfully request reconsideration and allowance of amended independent claims 1, 7, 13, and 18, as well as claims 2–5, 8–11, and 14–16 that depend from claims 1, 7, and 13, respectively.

Association of Customer Number and Change of Correspondence Address

Applicants respectfully request that all papers pertaining to the above-captioned patent application be associated with Customer No. **86528**, and direct all correspondence pertaining to this patent application to practitioners at Customer Number **86528**. All telephone calls should be directed to Eric M. Grabski at 512.457.2030. A Revocation and Power of Attorney will be filed shortly.

CONCLUSION

Applicants have made an earnest effort to place this case in condition for allowance in light of the remarks set forth above. Applicants respectfully request reconsideration of Claims 1–5, 7–11, 13–16, and 18, as amended.

Applicants believe there are no fees due at this time, however, the Commissioner is hereby authorized to charge any fees necessary or credit any overpayment to Deposit Account No. 50-4871 of King & Spalding L.L.P.

If there are any matters concerning this Application that may be cleared up in a telephone conversation, please contact Applicants' attorney at 512.457.2030.

Respectfully submitted,
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Date: July 10, 2009

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